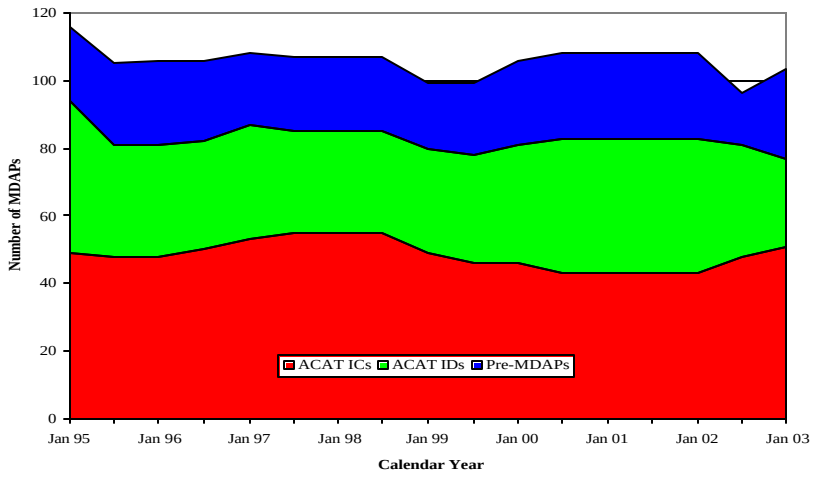
Upcoming ACAT IC & ID Milestone Reviews

Research Activities and Strategies

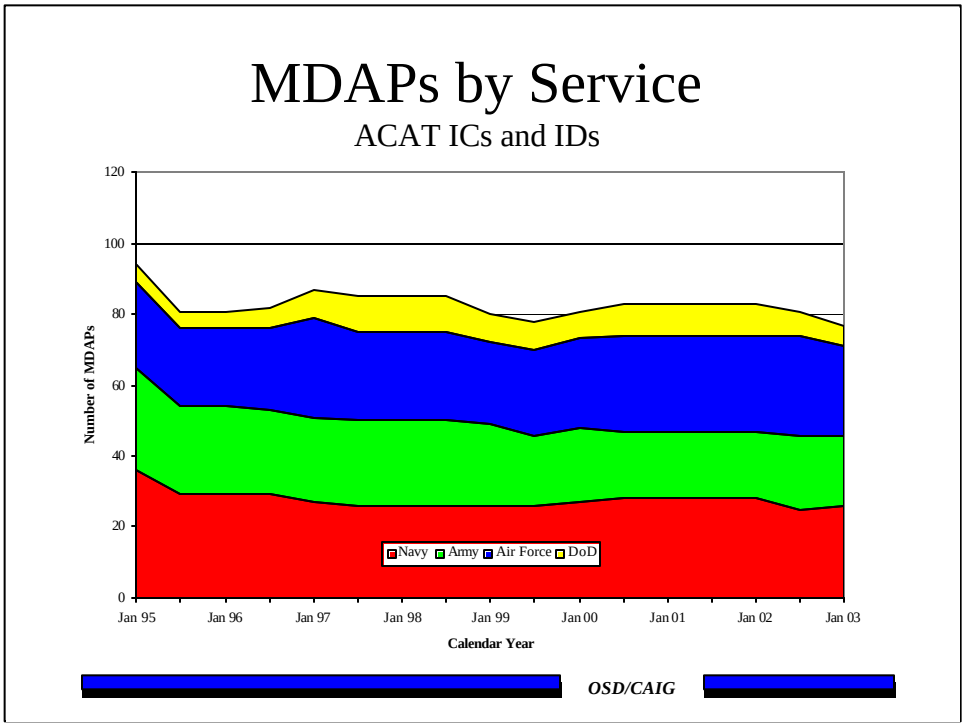
FY 03-08

OSD/CAIG

MDAPs by Acquisition Category

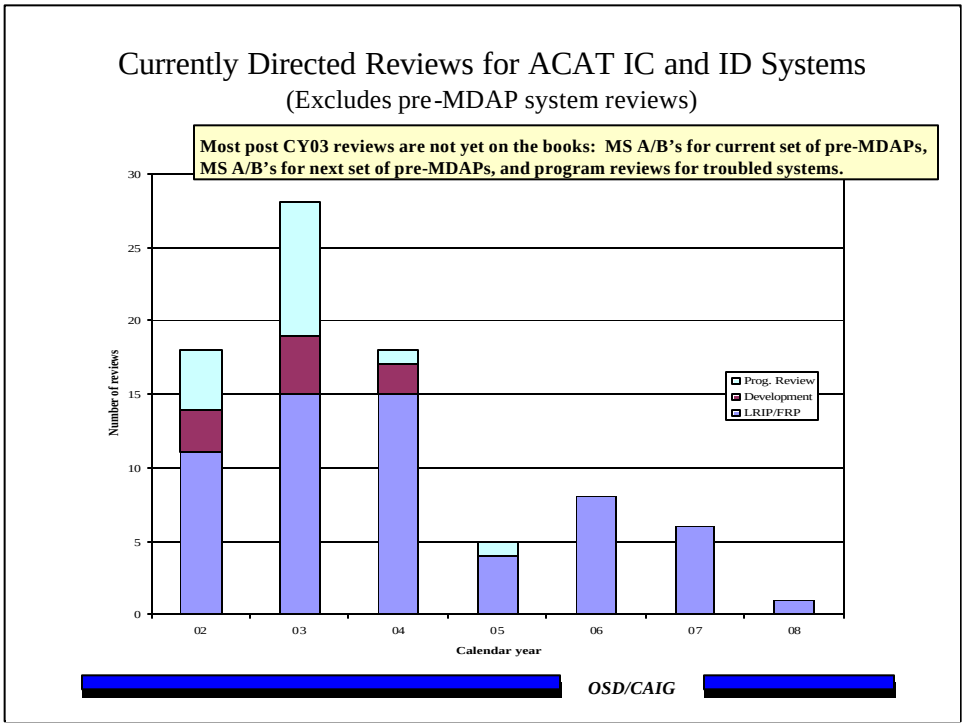


OSD/CAIG



Last MDAP memo is dated November 1998.

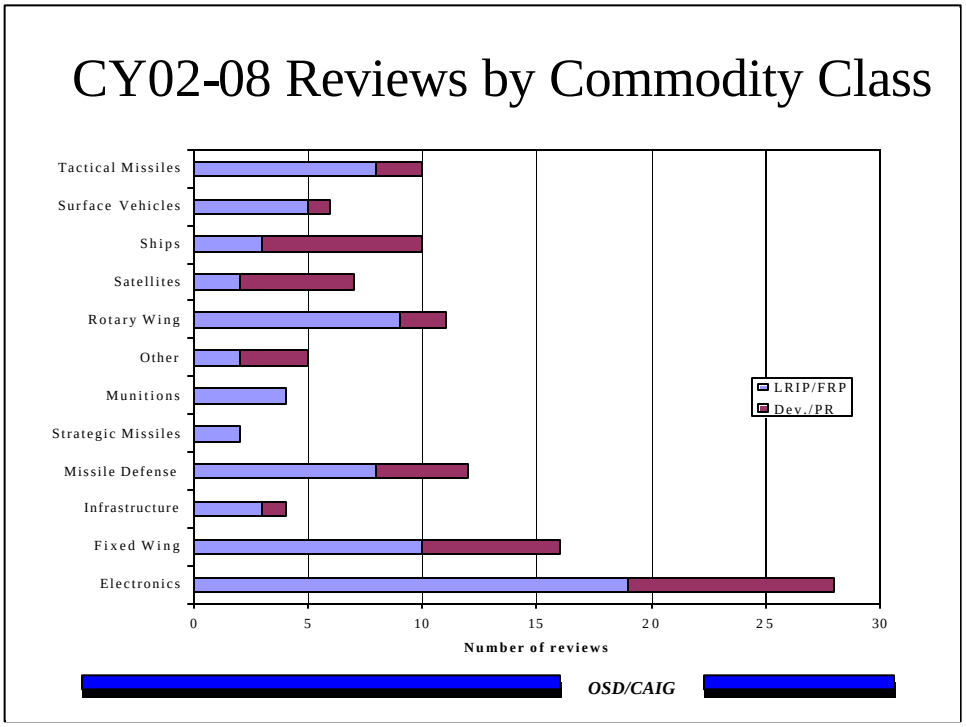
Contained 19 pre-MDAPs - since then milestone review dates have been established for 10 of them, 3 have or are being recategorized as ACAT IIs, six remain without milestones.



Have 93 scheduled reviews on the books from '99 through '13 - 16 yet in '99. Data generally comes from most recent DAES reports.

Decided that window of most interest is the one between '00 and '05

Contains all scheduled reviews except for sixteen in '99, two in '06, two on '07, one in '08, one in "11 and one in '13.

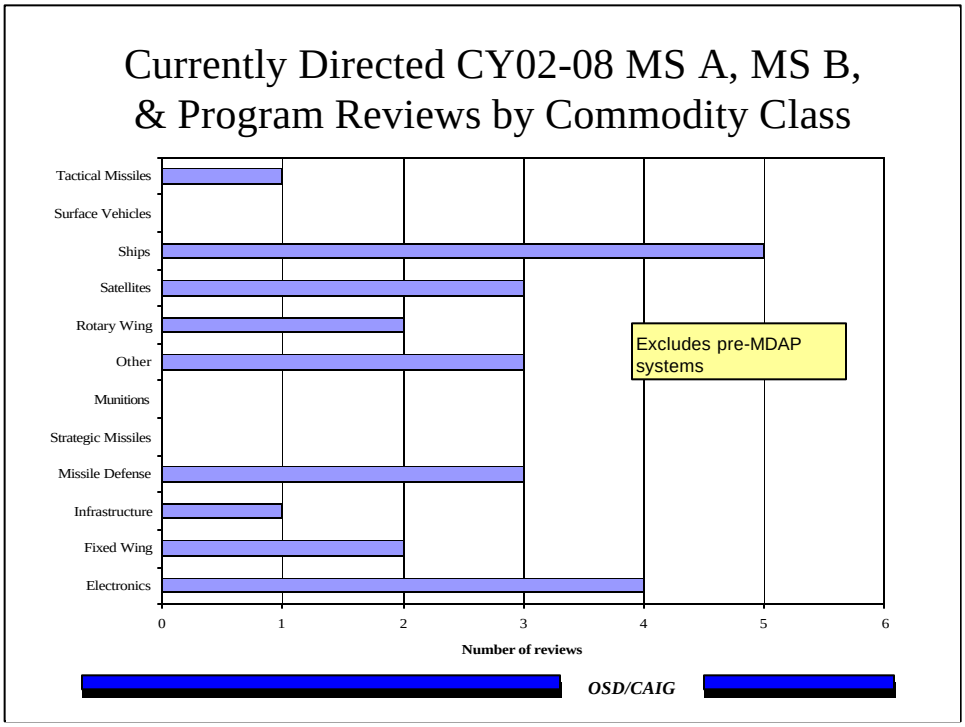


Divides reviews into MS IIIs and all other reviews

See very few new programs in tactical missile, strategic missiles like Minuteman, munitions, rotary wing aircraft, fixed wing aircraft, and infrastructure systems

Have 45 MS III reviews scheduled

Have 25 non-MS III reviews scheduled - not including pre-MDAPS



Shows number of non-MS III reviews by commodity class

Looks like most work will involve Missile Defense, Ships, Electronics, Satellites, and surface vehicles

Systems with Upcoming Program Reviews, MS A's, and MS B's by Commodity Class

Munitions & Tactical Missiles	Rotary Wing	Fixed Wing	Electronics	Satellites	Ships	Missile Defense
HIMARS	Comanche	JSF	CEC-Blk II	SBIRS-H	DD(X)	BMDS**
JDAM PIP	V-22	Tanker Rplmt	MP RTIP	WGS	CVN(X)	
AGM-88E			HPCM	NESP	SSN 774	
	CSAR*	MMA*	MCS		LPD-17	
Common Missile*	VXX*	E/A-18G*		ANS*	T-AKE	
SDB*		MC2A*	ACS*	AWS*		JLENS*
			JTRS-Clstr 3*	BAMS*	COBRA JUDY*	MEADS*
			AOC-WS*	MOUS*	LHA(R)*	
			B-2 RPP*	SBR*	MPF(F)*	
			E-2 Adv Hwk*		LCS*	
			GCCS-AF*			

* pre-MDAPs - these systems may never have a formal review

* PRs for THAAD, PAC-3 Blk 04, ABL,SBL

OSD/CAIG

Switch from a discussion of reviews to the specific systems having the reviews

Chart also shows the existing pre-MDAPS - interestingly - potential new systems fall into the same system categories that were are already expecting a fair amount of work.

At recent meeting to update memo - 2 new pre-MDAPS were identified. - gap filter and MUOS

We also added MEADs

Summary of Costing Challenges

- Methodologies
- Software
- Electronics/avionics
- Integration and testing
- Payloads

Methodologies

- Spiral Development/Evolutionary Acquisition
  - New acquisition approach to development and production of weapon systems.
  - Spiral development of systems shortens time to field but also suggests each spiral/block requires separate milestone reviews (e.g. Global Hawk)
  - Need models/methodologies to reflect this shift in acquisition strategy.
- Use of Commercial systems to satisfy DoD system requirements
  - History of true use of COTS and savings/costs incurred
  - Modification of commercial systems to satisfy DoD requirements

Software

- Large software development efforts are common across DoD programs.
  - Ship, aircraft, ground, and ballistic-missile defense programs all appear to have complex, highly integrated combat and battle management C3 systems.
  - Satellite systems generally include large ground-support C2 and mission-processing systems, with complex software architectures.
- Need a software database that captures baselines and block/spiral upgrades in terms of size, productivity, schedule, etc.
- Need estimating relationships that can predict software coding productivity and schedule as a function of software complexity and integration requirements (number of subsystems).

Electronics/Avionics

- "Small" Avionics Group B Items
  - Often individual Group B equipment items are fairly small and inexpensive; however, the quantity and number of platforms they must be integrated with drives them to MDAP status, e.g., JTRS, MEADS, MIDS-LVT. Need updated tools for estimating platform integration and installation activities.
- "Large" Sensor Installations
  - Designing, building, integrating and installing large sensors into airborne and sea-based platforms continues to be an area of significant interest, e.g., MP-RTIP. Need updated tools for estimating platform integration and installation activities.
- Obsolescence
  - What are the costs of maintaining architectures with interfaces to constantly changing commercial products?
  - Do DoD systems benefit from "open-system" architectures?

Integration and Testing

- "Factors" approach is no longer adequate.
  - to reflect added complexity for system of systems
  - to represent growing application of open architectures
  - to address increased dependency on software
  - to represent expanded reliance on automation and simulation
- Collect and analyze integration and testing cost data.
  - to understand nature and scope of associated work
  - to determine cost drivers and cost estimating relationships
    - hardware cost, software size
    - test sites and facilities, test vehicles and duration

Payloads
Missiles and Satellites

- Missile seekers
  - Hit-to-kill seekers appear to be significantly more challenging to design and build than predecessor proximity fused seekers.
  - Need updated missile/seeker models to reflect this quantum shift.
- Satellite payloads
  - New communication systems are under development across the RF spectrum (wideband SHF and Ka, protected EHF, and narrowband UHF).
  - New generations of meteorological and infrared sensors and new phased-array antennas for RF-based applications (e.g., GPS) are under development.
  - Need updated models for satellite payloads that incorporate not only DoD/other agency experience but also commercial experience.

CAIG Study Activities-FY03

- ***UAV/UCAV Systems and Platform Cost Estimating***
- O&M Program Balance and Cost Related Drivers
- ***Improved Methodologies for Estimating Development Costs (FSC related)***
- ***Aircraft Cost Study - Indirect Labor & Material / Remanufacture***
- FYDP Normalization
- Military Hospital Cost Analysis (Should-Cost Model)
- ***C4ISR Functions and Components Cost Estimation***
- Resource Analysis of DoD Central training
- DLA Aviation Investment
- ***Methodologies for Estimating Evolutionary Acquisition Programs***
- ***Cost Research Symposium***
- Training Course for Newly Assigned CAIG Analysts
- ***Plant Specific Overhead Rates***